



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,316	04/02/2001	Mark D. Austin	BS01-058	7343
36192	7590	02/13/2006	EXAMINER	
CANTOR COLBURN LLP - BELLSOUTH			CUMMING, WILLIAM D	
55 GRIFFIN ROAD SOUTH			ART UNIT	
BLOOMFIELD, CT 06002			PAPER NUMBER	
			2683	

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/822,316	<b>Applicant(s)</b> AUSTIN ET AL.	
	<b>Examiner</b> WILLIAM D. CUMMING	<b>Art Unit</b> 2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10, 11 and 33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 11 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 28, 2005 has been entered.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

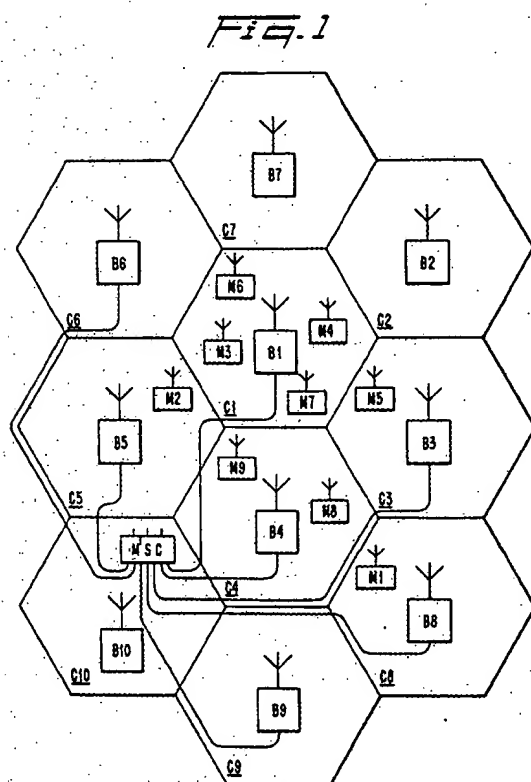
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-8, 10, 11, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bodin, et al** in view of **Li, et al**.

**Bodin, et al** disclose a method effecting a handoff in a cellular network (figure 1) comprising the steps of monitoring a set of frequencies listed in a mobile assisted handoff (*"In FIG. 3A, the entering signal strength threshold of cell C4 in the direction of cell C4 is represented by the value "a" which is depicted by an arrow representing the difference between SS4-SS1. FIG. 3 illustrates an example of a method for dynamically varying the handoff thresholds in accordance with the present invention. In FIG. 3A, when a mobile station, which is pictorially represented as an automobile, moves from base station B1 to B4, a handoff is considered once the measured signal strength drops below the staying or SSH threshold, and the handoff is granted when SS4-SS1.gtoeq.a. In other words, the handoff from cell C1 to cell C4 is delayed until the signal strength*

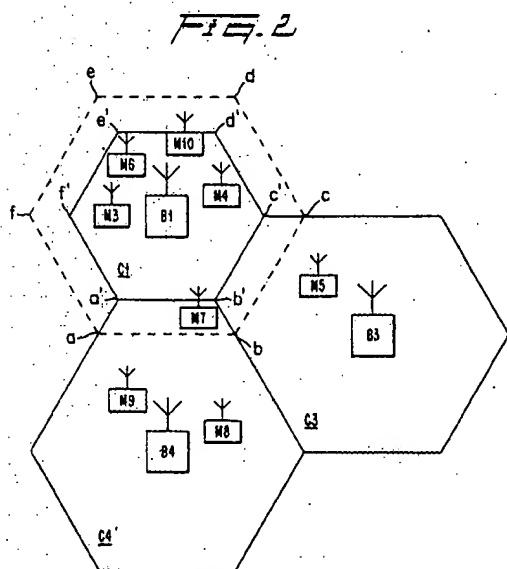
*measured at base station B4 is greater than the signal strength measured at base station B1, as indicated by the value "a". The measurements may alternatively be performed downlink in the mobile if mobile-assisted handoff is available.")*



Logically ordering the frequencies based on their relative signal strengths ("Each cell is always equipped with a signal strength receiver which consists of a receiver and a control unit. The signal strength receiver is typically the same design as the receiver used for each voice channel. The signal strength receiver in each cell performs cyclical measurements, sampling the radio frequencies received from the mobile stations. All the system frequencies may be sampled but only the

voice channel frequencies allocated to mobile stations in the neighboring cells are of interest for handoff. The information about which channel should be taken under consideration, during the above-mentioned sampling is originally received from the MSC. The measurement results are updated, in the control unit as a mean value after each cyclic sampling. In this way each cell knows what the signal strength with any mobile station currently using a neighbor's voice channel would be if the cell in question

would have to take over the transmission. If a handoff has been requested by a cell, the MSC will ask the neighboring cell to send the measurement results of the signal strength from the mobile station." And "The signal strength results are always available in each cell. On request they will be provided to the MSC which looks for the best result. When the measured signal strength satisfies the dynamically variable entering threshold, the MSC can then determine the target cell for handoff. When the cell is determined, the MSC looks for an idle voice channel in the cell. If all the voice channels are busy at the moment, the next best cell is taken providing that it also fulfills the criteria. When the voice channel has been selected an order to start the transmitter in the base station is issued to the new cell. Then an order to the mobile station for turning to the selected voice channel is sent. The base station in the new cell and the mobile station can then communicate with one another.")



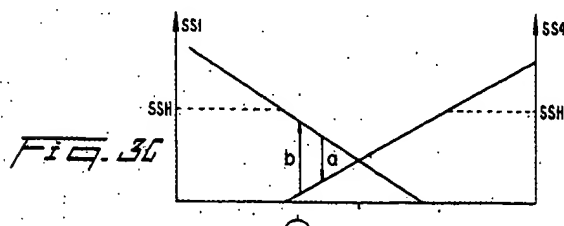
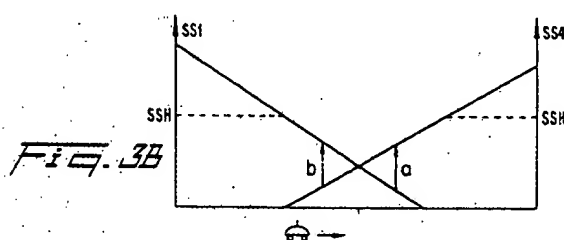
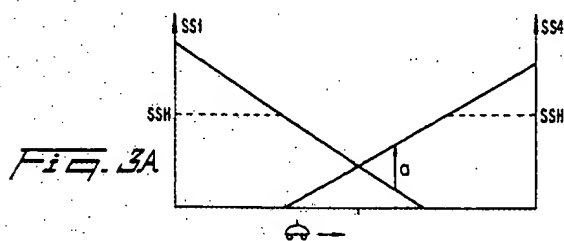
Identify in the logically ordered set of frequency those frequencies having a signal strength higher ("According to the present invention as illustrated in FIG. 2, a voice channel in cell C1 may be vacated and access can be given to the mobile station M10 by reducing the size of cell C1. By dynamically varying the entering thresholds of

cells C1 and C4, the sizes of cells C1 and C4 are decreased and increased

respectively. The SSH threshold (the staying threshold) is an absolute value. It is only used to limit the amount of handoff processing. It is of no importance functionally since it is always above the absolute values associated with the entering thresholds. The mobile station M7 formerly at the periphery of cell C1 now lies within the expanded area of cell C4 and can be handed off by the normal handoff routine. Typically in the prior art, the entering thresholds between cell C1 and its six neighboring cells C2-C7 are the same and a handoff usually occurs when the signal strength satisfies the entering threshold. In the present invention, however, the entering thresholds between cell C1 and each cell C2-C7 may be different and the mobile station is not handed off until the entering threshold is exceeded as hereinafter explained. Moreover, in the prior art the entering threshold for a mobile station entering cell C1 from cell C2 (in FIG. 1) would typically be the same as the entering threshold of a mobile station entering from cell C4.

In the present invention, however, there is an entering threshold for mobile stations entering cell C1 from cell C2, and this entering threshold may be different from the entering threshold for mobile stations entering cell C1 from cell C4."

Associating a cellular site with at least each frequency in the set of frequencies ("The signal strength results are always available in



*each cell. On request they will be provided to the MSC which looks for the best result. When the measured signal strength satisfies the dynamically variable entering threshold, the MSC can then determine the target cell for handoff. When the cell is determined, the MSC looks for an idle voice channel in the cell. If all the voice channels are busy at the moment, the next best cell is taken providing that it also fulfills the criteria. When the voice channel has been selected an order to start the transmitter in the base station is issued to the new cell. Then an order to the mobile station for turning to the selected voice channel is sent. The base station in the new cell and the mobile station can then communicate with one another."*

*Determining a level of traffic at each cellular site ("According to the present invention, it is possible to decrease the enter threshold of all neighbors C2 . . . C7 relative to cell C1 and to increase the enter thresholds of cell C1 relative to all its neighbors, thus maintaining the base station of cell C1 in the middle of this cell. However, according to the invention, it is alternatively possible to consider the traffic occupation level of the cells C2 . . . C7. If, e.g., the cell C4 has a comparatively low traffic occupation level, the enter threshold is lowered only for this cell C4 relative to cell C1 and the enter threshold rises only for cell C1 relative to cell C4. In this case the base station B4 of cell C4 will not be in the center of its cell anymore. It is even conceivable that a cell is reduced in size on one side and increased in size on the opposite side, thus displacing the cell towards a region of higher traffic, in order to help carry that traffic.").*



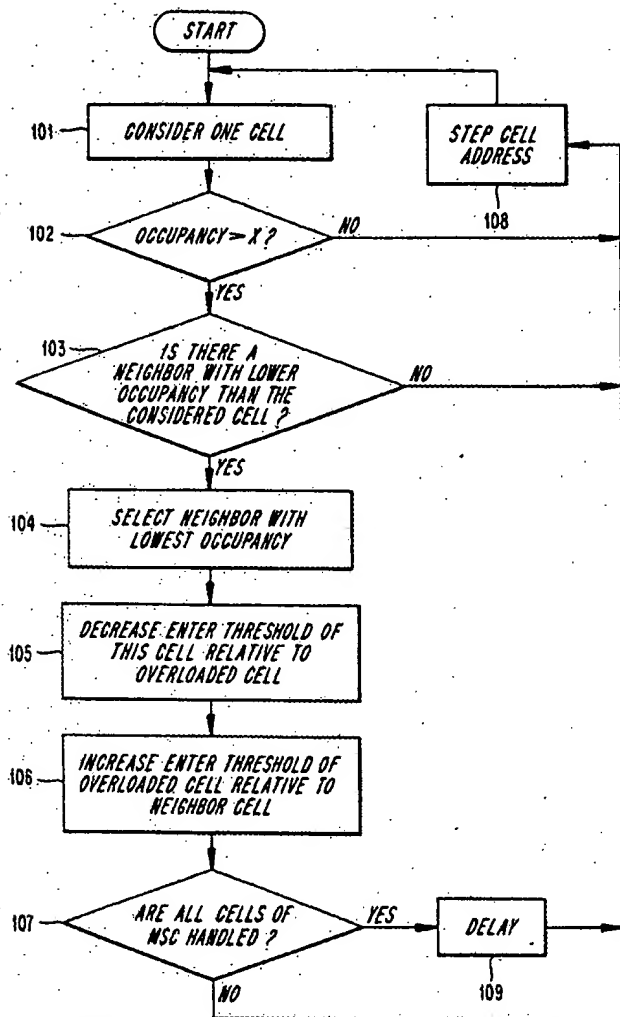


FIG. 4

Selecting a cellular site for handoff based at least in part on signal and in part the level of traffic ("One advantage of this method is the fact that no handoff order needs to be given to any mobiles as a result of heavy traffic in certain cells, but the conditions for handoff are changed such that normal handoff activity will redistribute traffic more evenly.").

**Boldin, et al** does not disclose determining known load patterns for each cellular site

includes accessing stored known load patterns for each cellular site.

**Li, et al** teaches the use of determining known load patterns for each cellular site includes accessing stored known load patterns for each cellular site (figures 1A-2F) for the purpose of adjusting handoffs criteria. Hence, it would have been obvious for one ordinary skill in the art at the time the claimed invention was made to incorporate the use of determining known load patterns for each cellular site includes accessing stored known load patterns for each cellular site, as taught by **Li, et al**, for the purpose of adjusting handoffs criteria, in the method of effecting handoff in a cellular network of **Boldin, et al** in order select a cellular site for handoff is based on part on expected load of each cellular site.

Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. However, examples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are:

- (A) "adapted to" or "adapted for" clauses;
- (B) "wherein" clauses; and
- (C) "whereby" clauses.

The determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case. In *Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005), the court held that when a "'whereby' clause states a condition that is material to patentability, it cannot be ignored in order to change the substance of the invention." *Id.* However, the court noted (quoting *Minton v. Nat'l Ass'n of Securities Dealers, Inc.*, 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003)) that a *"whereby clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited."* *Id.*

Regarding claim 33, **Bodin, et al** disclose all subject matter, except for ordering the frequencies from highest to lowest signal strength. The examiner takes Official Notice that ordering the frequencies from highest to lowest signal strength is an decade old and well known in the art in methods of effecting handoff. The examiner cites **Balachandran** as evidence as such. Clearly applicants did not invent this. Hence, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate the old and well know use of ordering the frequencies from highest to lowest signal strength in the method of effecting a handoff in a cellular network in order to pick the frequencies or channels with the strongest signal.

Applicants' attorney **DID NOT** traverse the Official notice state in the last Office action. To adequately traverse such a finding, an applicants' attorney must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. See 37 CFR 1.111(b). See also Chevenard, 139 F.2d at 713, 60 USPQ at 241 (*"[I]n the absence of any demand by appellant for the examiner to produce authority for his statement, we will not consider this contention."*). A general allegation that the claims define a patentable invention without any reference to the examiner's assertion of official notice would be inadequate. If applicants adequately traverse the examiner's assertion of official notice, the examiner must provide documentary evidence if the rejection is to be maintained. See 37 CFR 1.104(c)(2). See also Zurko, 258 F.3d at 1386, 59 USPQ2d at 1697 (*"[T]he Board [or examiner] must point to some concrete evidence in the record in support of these findings"* to satisfy the substantial evidence test). If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2). If applicants do not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate.

Applicants' attorney's any future traversal is inadequate because:

{a} It was not timely. Applicants' attorney willfully did not traverse the Official notice in the next response (November 28, 2005) and did not seasonably challenge. In re Selmi, 70 USPQ 197; In re Fischer 52 USPQ 473; In re Boon, 169 USPQ 231.

{b} Applicants' attorney failed why the noticed fact is not considered to be common knowledge or well-known in the art. See 37 CFR 1.111(b). See also Chevenard, 139 F.2d at 713, 60 USPQ at 241.

{c} The examiner did provide documentary evidence.

### ***Drawings***

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the step of accessing stored known load patterns for each cellular site as stated in claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

7. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Response to Arguments***

8. Applicants' arguments with respect to claims 1-11 and 33 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Zadeh, et al** also show the use of determining known load patterns for each cellular site includes accessing stored known load patterns for each cellular site.

10. If applicants wish to request for an interview, an *"Applicant Initiated Interview Request"* form (PTOL-413A) should be submitted to the examiner prior to the interview in order to permit the examiner to prepare in advance for the interview and to focus on the issues to be discussed. This form should identify the participants of the interview, the proposed date of the interview, whether the interview will be personal, telephonic, or video conference, and should include a brief description of the issues to be discussed. A copy of the completed *"Applicant Initiated Interview Request"* form should be attached to the Interview Summary form, PTOL-413 at the completion of the interview and a copy should be given to applicant or applicant's representative.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **WILLIAM D. CUMMING** whose telephone number is 571-272-7861. The examiner can normally be reached on Monday-Thursday, 11:00am-8:00pm.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wdc



UNITED STATES  
PATENT AND  
TRADEMARK OFFICE

**William Cumming**  
Primary Patent Examiner  
[william.cumming@uspto.gov](mailto:william.cumming@uspto.gov)

A handwritten signature in dark ink, appearing to read "Wdc", is written over a horizontal line. The signature is stylized and extends to the right.